

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
14 April 2005 (14.04.2005)

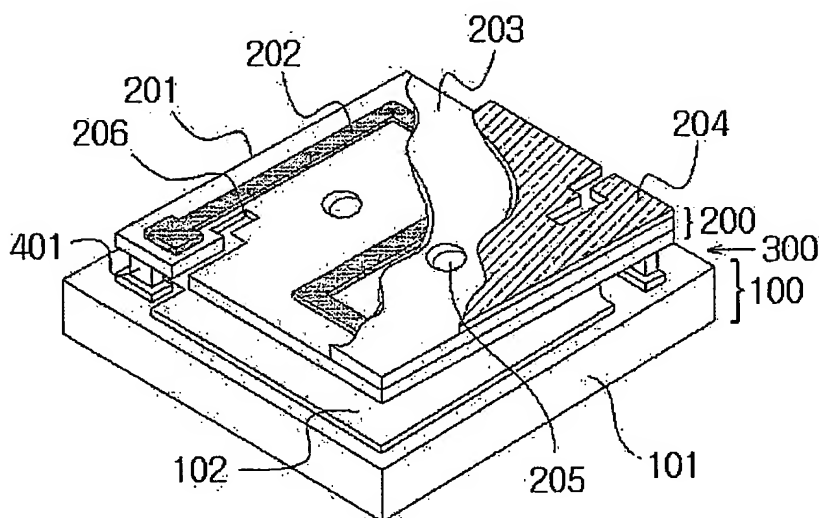
PCT

(10) International Publication Number
WO 2005/034248 A1

- (51) International Patent Classification⁷: **H01L 31/09**, (72) Inventors; and
G01J 1/02 (75) Inventors/Applicants (for US only): LEE, Hong-Ki
[KR/KR]; 310-201 Hyojachon, 292 Seohyun-dong, Bun-
(21) International Application Number: PCT/KR2004/002294 IM, Young-Geun [KR/KR]; #201 Seongjun terrace
house., Yeokgok 2-dong, 30-1 Wonmi-gu, Bucheon-si,
Gyeonggi-do 420-832 (KR).
(22) International Filing Date: 9 September 2004 (09.09.2004) (74) Agent: SEO, Cheon-Seok; Seo International Law And
Patent Office, 8th Floor KAIS system Bldg, 1657-5 Seo-
cho-dong Seocho-gu, Seoul 137-070 (KR).
(25) Filing Language: Korean
(26) Publication Language: English (81) Designated States (unless otherwise indicated, for every
kind of national protection available): AE, AG, AL, AM,
AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN,
CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI,
GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE,
KG, KP, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG,
MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH,
PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN,
TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
(30) Priority Data: 10-2003-0070410 9 October 2003 (09.10.2003) KR
10-2004-0061285 4 August 2004 (04.08.2004) KR
10-2004-0070714 6 September 2004 (06.09.2004) KR
(71) Applicant (for all designated States except US): OCAS
CORP. [KR/KR]; Rm206P1-Dong, KyonggiTechnoPark,
1271-11 Sa-dong, Ansan, Gyeonggi-do 426-170 (KR). (84) Designated States (unless otherwise indicated, for every
kind of regional protection available): ARIPO (BW, GH,

[Continued on next page]

(54) Title: BOLOMETRIC INFRARED SENSOR HAVING TWO LAYER STRUCTURE AND METHOD FOR MANUFACTURING THE SAME



(57) Abstract: The present disclosure is related to bolometric infrared sensors having a two-layer structure and methods for manufacturing the same for improving an absorption rate by a spectroscopic design for resonantly absorbing infrared, and preventing the deformation of a sensor caused by stresses due to heat. The infrared sensor including an ROIC substrate and several pixels, comprises: a bottom layer including a reflective metal layer on the ROTC substrate; a cavity for resonantly absorbing infrared ray over the bottom layer; an upper layer of a sandwich shape including an absorption-transmission layer having a cutting area in the middle thereof and a bolometer layer placed both on and under the absorption-transmission layer; and anchors positioned at the edges of the pixel for supporting the upper layer and functioning as electrodes.



GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

— with international search report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.